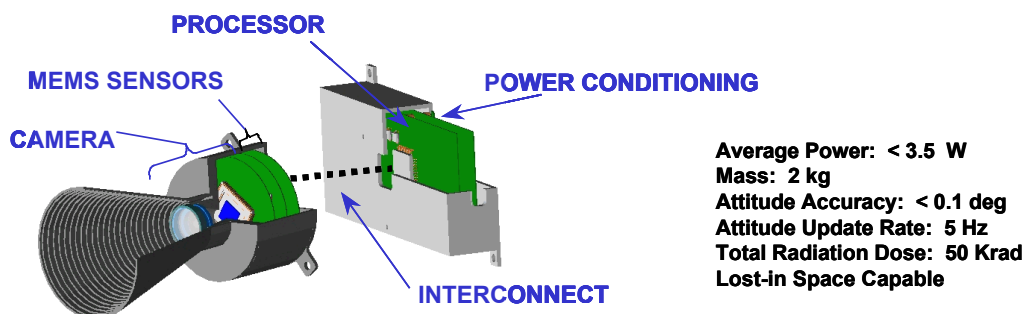


## 1.0 FACT SHEET

<b>Subsystem: Low-Power Avionics Sensor Suite (LoPASS)</b>	<b>POC Name/Org: W. Wyman, Draper Lab</b> <b>POC E-mail: <a href="mailto:wwyman@draper.com">wwyman@draper.com</a></b>
<b>Technology Name: Low-Power/Low-Weight Attitude Determination</b>	<b>URLs for additional information: <a href="http://www.draper.com">www.draper.com</a></b>



**Description of Technology:** Wide field-of-view (WFOV) miniature star camera and microelectromechanical rate gyros integrated to provide a radiation-tolerant stellar-inertial attitude determination system for 3-axis stabilized and spinning spacecraft. Robust to LEO and GEO environments.

**Applicability:** High-precision, low-weight, and low-power attitude determination for a variety of 3-axis stabilized and spinning spacecraft. Individual gyros and WFOV star camera can also be used separately as independent redundant units for any spacecraft needing increased reliability in attitude determination. Also suitable for low-bandwidth imaging for inspection, science, and navigation.

**Benefits to Space Science Missions:** Low-power, low-weight, and precision attitude determination for long duration space science missions, including the capability to recover attitude after power loss. Ultra-low power and low weight will enable new concepts in nano-satellite employment. Reduces risk for large and medium size spacecraft when used as a low-power, low-weight redundant unit. The reduced power and weight allows LoPASS to substitute for proposed small satellite's attitude determination systems, opening up additional mass and power for scientific payloads.

### Development Status and Plans for Flight Readiness

Description	Technology Maturity	Date (to be) Completed
Concept Ground Demonstration	4	8/29/01
Subsystem Ground Demonstration	5	10/31/02
Flight Validation	7	5/31/04